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Improving Incentives in Tertiary Education in Belgium

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IMPROVING INCENTIVES IN TERTIARY EDUCATION IN BELGIUM

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By

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ABSTRACT/RÉSUMÉ

Improving incentives in tertiary education in Belgium

The tertiary education system has been transformed from an elite-oriented system to a system providing tertiary education to a much larger share of each new generation. This re-orientation has contributed to raising education attainment in Belgium. However, in many respects the organisation of the tertiary education systems has not been changed fundamentally and economic incentives are only to a minor extent in place for securing the supply and quality of tertiary education. The system has come under strain, as revealed in the high failure rate among first-year students and the high incidence of subject change. There is thus a need for the system to adapt to be able to continue to support the improvement in educational attainment.

JEL classification codes: F21, F22, F23

Key words: Higher education, Educational Finance, Analysis of Education, Rates of return to educational investment.

Améliorer les systèmes d'incitation dans l'enseignement supérieur en Belgique

Auparavant élitiste, l'enseignement supérieur a été transformé en un système devant permettre à une part plus importante de chaque nouvelle génération de faire des études supérieures. Cette réorientation a contribué à élever le niveau de formation en Belgique. Cela étant, à bien des égards, l'organisation du système d'enseignement supérieur n'a pas été fondamentalement modifiée et les conditions économiques permettant d'assurer une offre et une qualité d'enseignement suffisantes sont loin d'être réunies. Le système est en proie à des difficultés, comme en témoigne le taux d'échec élevé des étudiants de première année et les nombreux changements de filière. Il doit donc faire l'objet d'aménagements si l'on veut qu'il puisse continuer à améliorer le niveau de formation.

Classification JEL : F21, F22, F23

Mots clés : Enseignement supérieur, financement de l'éducation, analyse du système éducatif, rendement de l'investissement dans l'enseignement.

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IMPROVING INCENTIVES IN TERTIARY EDUCATION IN BELGIUM

by Jens Høj[1]

1. Investment in human capital plays a key role in sustaining and enhancing growth. This role is likely to become even more important in the future as the ongoing globalisation process necessitates further moving up the value-added chain and as ageing puts downwards pressure on overall growth. Belgium has responded to this challenge by boosting tertiary education over the past couple of decades. Notwithstanding some recent changes, funding continues to be mostly input-based and there is only limited competition between tertiary education institutions. Despite the generally good quality of tertiary education and the substantial increase of investment in human capital, there has been no corresponding improvement in labour productivity and hence the economy's performance (see Chapter 1), raising questions about the efficiency of this investment.[2] The chapter discusses the policy challenges in the tertiary education system. After a brief overview of recent developments, it addresses issues concerning the organisation of tertiary education institutions and student support. This is followed by a discussion of a range of measures that, if introduced, could contribute to a more cost-efficient and higher quality tertiary education system.

Belgian tertiary education in an international context

Educational attainment is relatively low, but enrolment in tertiary education is high

2. The average educational attainment of the working age population in Belgium is lower than in most other OECD countries (OECD, 2006). This reflects the fact that historically only a relatively small part of the population attained upper secondary education. On the other hand, tertiary education attainment has historically been relatively high. Moreover, tertiary education has been expanded over the past decades, leading to a significant improvement in the educational attainment of younger generations, with 41% of the age cohort 25-34 years having a tertiary degree. This is among the highest rates of tertiary education attainment among younger people in the OECD and twice as high as the Belgian age cohort of 55-64 years.[3] For the total population, about 30% of people hold a tertiary education degree, which is

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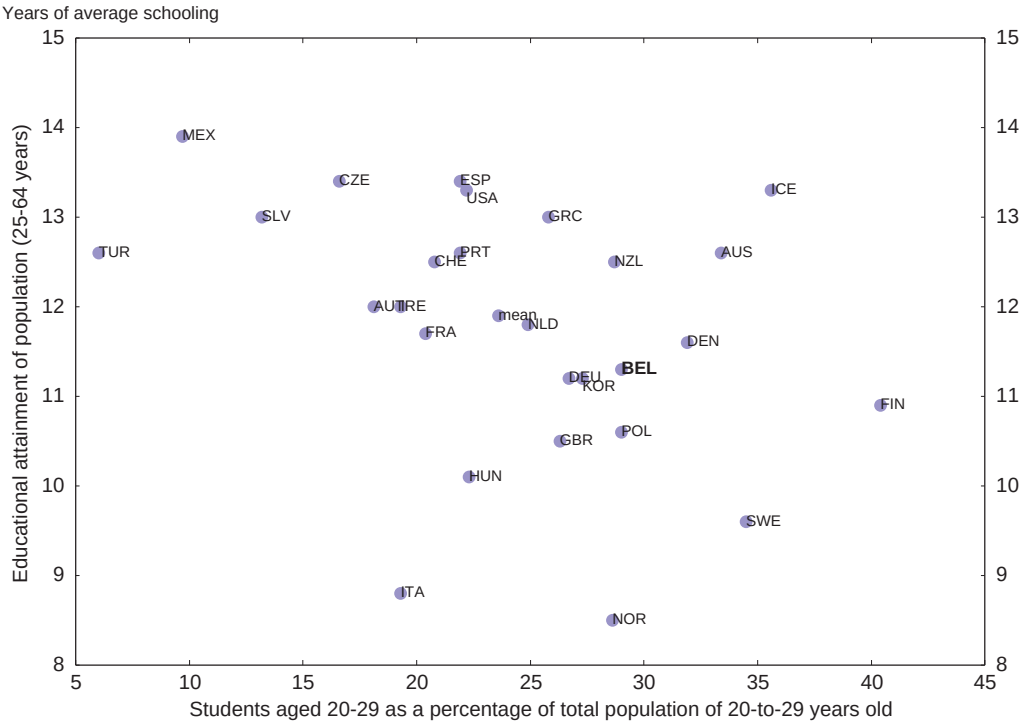
1. This paper was originally prepared for the OECD *Economic Survey of Belgium* which was published in March 2007 on the responsibility of the Economic and Development Review Committee. The authors are grateful to colleagues in the OECD, especially Jørgen Elmeskov, Andrew Dean, Val Koromzay and Patrick Lenain. Special thanks to Laure Meuro for her technical assistance. The author can be contacted at Jens-Christian.Hoj@oecd.org

2. The quality of tertiary education institutions is confirmed in rankings published by the Times newspaper.

3. On the other hand, the graduation rate for advanced research programmes is relatively low in an international comparison.

(abstracting from the Nordic countries) among the highest in Europe and set to increase further with the high enrolment rate into tertiary education (Figure 1).[4]

Figure 1. Educational attainment and enrolment in tertiary education, 2003



Source: OECD, Education at a glance, 2006.

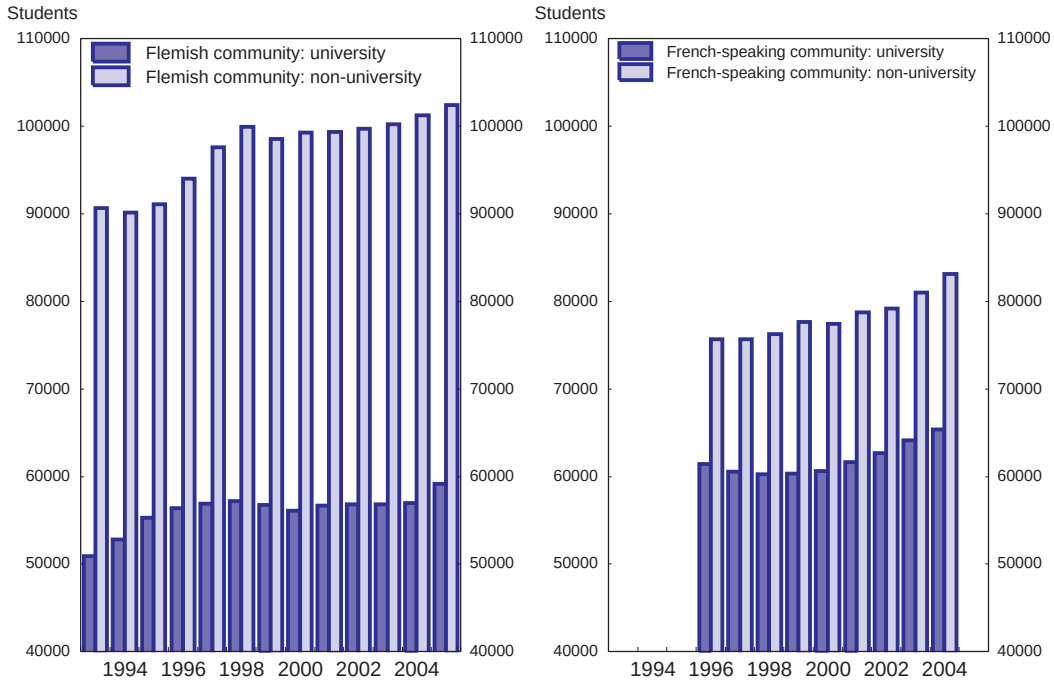
3. Tertiary institutions include universities – providing longer academic degrees – and non-university institutions, which typically provide shorter professional degrees (in some cases, though, study time at the non-university institutions may be as long as at the universities) and account for about two-thirds of enrolment in tertiary education. The expansion of tertiary education has mostly taken place in non-university institutions (Figure 2). However, there has not been a similar expansion of teaching resources, leading to an increase in the student-to-teaching staff ratio over the past 10 years, and leaving Belgium with one of the highest overall student/teacher ratios in the OECD area (Figure 15).[5]

4. Of those enrolling into tertiary education, the majority is enrolled in non-university institutions. The share enrolled into university level tertiary education is actually among the lowest in the OECD area (OECD, 2006).

5. At the same time there has been an increase in the number PhD enrolled (reflecting to a large degree both regional and EU efforts to expand such numbers). With increased demands on professors to teach and support PhDs, concerns have been raised about whether professors have sufficient time to do their own research. Moreover, some of the funding problems are set to be rectified as both the Flemish and French communities are budgeting with real increases in the funding of tertiary education.

Figure 2. Enrolment in tertiary education

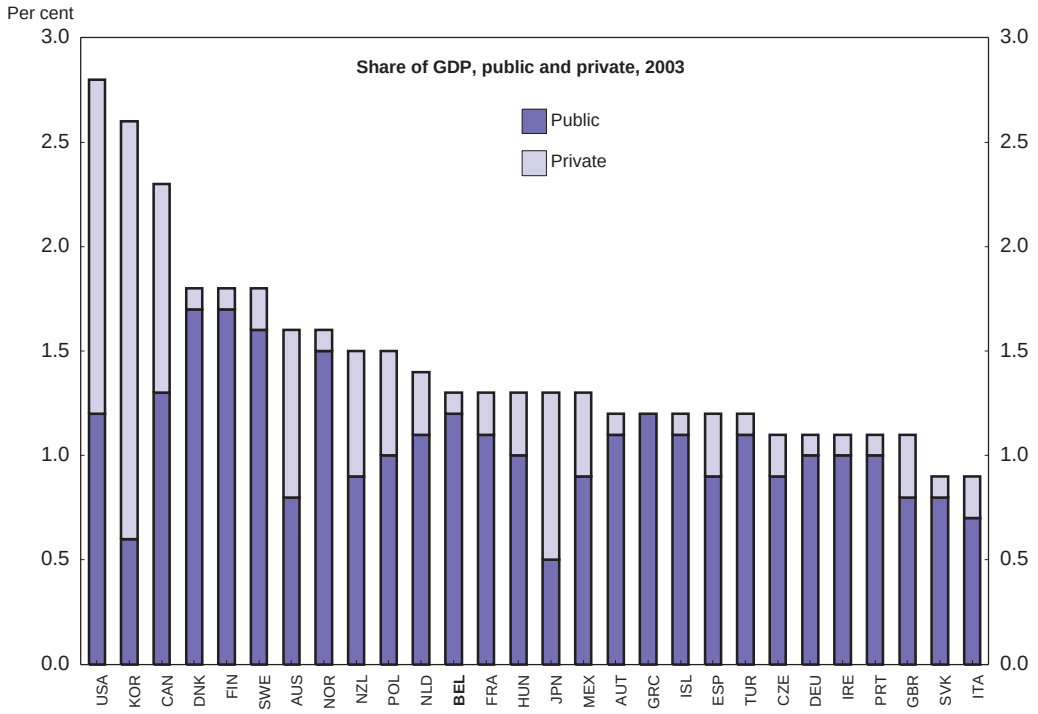
1993-2005



Source: Ministries of Education.

4. Despite the apparent lack of teaching resources, total spending in tertiary education as a share of GDP is nevertheless relatively high by international standards (Figure 3). In response to the budgetary pressure arising from the larger enrolment, there has been a drive in the French-speaking community to seek economies of scale and scope by merging non-university institutions – although this does not seem to have reduced overhead costs so far.

Figure 3. Expenditure on tertiary education



Source: OECD, Education at a glance, 2006.

5. Signs of strains in the tertiary education system have emerged. In the university institutions, there is a dropout rate of nearly 40 per cent – higher than in most other OECD countries – and about half of the drop-outs continue in non-university institutions (Jacobs and van der Ploeg, 2006). In addition, more than half of all first-year university students fail their first annual exam (Vandamme *et al.,* 2006). Average study time (excluding the effects of students prematurely leaving the institutions) is nearly 20% longer than the nominal period of study, suggesting few incentives for students to rapidly complete their studies (Ministry of Education and Training, 2006). A number of measures have been adopted to address these issues (see below).

The organisation of tertiary education is decentralised

6. Tertiary education is the responsibility of the communities. The financing of educational institutions is provided at a lower level of government than in most other OECD countries, an arrangement that is similar to that of several other federal countries, such as Germany, Spain and the United States (European Commission, 2004). The federal government has retained the important role of providing child benefits and granting tax credits to parents with a child in tertiary education. Overall education spending accounts for the bulk (nearly half of the combined budget for the Flemish region and community and about three-quarters in the French community) of the Communities' budgets, of which about one-fifth goes to tertiary education. The tertiary education institutions have traditionally been financed through an input-based system, *i.e.* a funding based on the number of students enrolled.[6] For universities, close to three-

6. Input based financing systems provide for an element of competition among tertiary education institutions as each institution has incentives to attract as many students as possible. However, such systems embody few incentives for improving graduation rates.

fourths of the overall funding (which is indexed to the health index) is distributed among the universities according to their number of students (Deschamps and Schmitz, 2006). In addition, the distribution of funds between universities and non-university tertiary education institutions has been fixed since 1995. A relatively small share of spending is allocated to income support of students in the form of scholarships and grants (see below).

7. The Flemish community is introducing a new output-based budgeting system, planned to be in place by the beginning of 2008. In the new system, besides a lump sum, the budget for first-year students will continue to be based on the number of enrolled students, while the budget for other students will be based on the number of students who pass the end-of-year exams.[7] The effective overall spending limit on tertiary education (set by the overall budget requirements) implies that the new system will lead to a re-allocation of available resources towards the more efficient institutions. As input-based funding provides few incentives for matching teaching capacity and quality with student intake, the move towards an output-based budgeting system is an improvement, although the risk of grade inflation must be countered by having a system of external examiners or, less effectively, a peer review system.[8] Moreover, it is regrettable that the new system was not extended to include first-year students, where the problems are most visible: failed exams; widespread changes of study field; or dropping out of the system altogether.[9]

8. There has been a divergence in tertiary education real spending between the Flemish and French speaking communities. In the Flemish community, real spending per student in universities and non-universities has increased since 1991 by nearly 7½ per cent and 13%, respectively, as opposed to decreasing by 17% and 12%, respectively, in the French speaking communities. By 2005, the spending per university student was 70% higher in Flanders than in Wallonia, while spending for non-university students was 30% higher (Table 1). The budgets of the communities are mainly financed by federal transfers, as discussed in Chapter 2. These transfers are based on VAT revenues and distributed between the communities according to the share of the population below 18 years, securing a relative solid link between the number of pupils and the associated education expenditures. As the distribution criteria will be gradually changed to reflect growth in real GDP, this link will be somewhat weakened.

7. In addition, extra funding will be provided for students from under-represented socio-economic groups, students in strategically important subjects (mathematics, science and technology), and for students in joint study programmes.

8. In Flanders, the quality of tertiary education is secured through a peer review system (an academic accreditation programme) particularly *vis-à-vis* Dutch tertiary educations. Such systems aim at objective evaluations, although the incentive structure may hinder damaging critics. The use of external examiners would provide a more direct evaluation system, both of students' individual performance, but also of the overall performance of the institutions.

9. The new funding model will have an impact on first year students as acquired study credits can be transferred to other study programmes.

Table 1. Spending per student, in euros, on tertiary education in the French and Flemish Communities
2003-2004

	French Community	Flemish Community
University	7 761	13 241
Non-university	4 772	6 219
Total spending in millions of euros	894	1 409

Source: Ministries of Education.

Access to tertiary education is almost free

9. Entering tertiary education is easy. There is almost no pre-screening of students in terms of ability and capacity to pursue tertiary education programmes. The only entry requirement for most tertiary studies is an upper secondary diploma and only a few much sought-after studies like dentistry, medicine, and veterinary science have restricted intake through entry tests.[10] Moreover, tuition fees are low – covering on average about 7% of the universities' costs – and similar across studies. The nearly free access to tertiary education is often defended on equity grounds by facilitating access for students from low-income families. However, in reality the tertiary education system is not promoting social mobility (Box 1). Easy access contributes to the high failure rate among students, reflecting poor matching between individuals' selection of studies and their capabilities, as well as insufficient preparation for further studies at lower levels of education (OECD, 2005a).[11] Thus, the free access leads mostly to a misallocation of resources as tertiary education institutions have to provide teaching to large number of students who fail their exams and/or leave the institutions. In response to these problems, Flanders is replacing the system of year exams with a credit system for completed academic course work. In addition, a learning account system is being implemented. Upon entry students are allocated a fixed amount of credit points in the learning account. At the start of each academic year, students are debited from this account a number of credit points that is equivalent to the required academic course work. Upon successful completion of the latter, the credit points are added back to the learning point. In principle, once students have exhausted their allocation they cannot continue their studies, thus creating incentives for timely study completion, although the initial allocation of credits allows for at least a year of extra study time to complete studies.[12] However, in the absence of a reward for timely completion of studies, such a system risks becoming a norm-setting system, *i.e.* it signals that completion time should include (parts of) the extra study time. Moreover, it is unclear how the problem of denying students that are approaching graduation access to further studies will be addressed. In the French community, a number of measures to lower the high failure rate among first-year students have been introduced, including easier access to mid-term exams, opening up of gateways to other degrees, and granting admission on the basis of professional experiences. Moreover, universities are obliged to devote a greater share of their budgets and will receive special grants to promote the success of first-year students.

10. Similar access systems are in place in Denmark, Germany, and the Netherlands. However, in Denmark access is regulated through the grades obtained at the secondary level. In contrast, the United Kingdom, Sweden and the *grandes écoles* in France operate with strict entrance criteria (Jacobs and van der Ploeg, 2006).

11. An additional factor might be the system of annual exams involving all subjects studied, which may constitute a considerable hurdle for inexperienced first-year students, although this exam form is likely to contribute to the high pass-through rate in subsequent years as exams in individual subjects cannot be redone.

12. Another incentive for timely study completion is the opportunity for enrolling in another study programme.

Box 1. Social mobility and the tertiary education system

In most OECD countries there is a correlation between family income and tertiary education attendance/completion. Such correlations are normally explained as arising from short-run liquidity constraints (*i.e.* a lack of public or private funding prevents poor students from entering higher education) or as arising from family background (influencing both cognitive and non-cognitive ability as well as forming education expectations). Empirical tests of these hypotheses for Belgium suggest that there is little evidence of short-term liquidity constraints and that nearly all variations can be explained by family background and secondary school achievement (Vandenberghe, 2006a). This suggests that financial aid to families is unlikely to affect tertiary education attendance and that increasing the current low tuition fees is unlikely to affect the distribution of enrolment across socio-economic groups. The result also indicates that the investment in tertiary education has significant regressive elements in terms of income distribution (particularly when including lifetime income, which for the average taxpayer is lower than that of the average graduate). Thus, it would appear that improving the access to tertiary education for socially disadvantaged groups depends on improving secondary education (Vandenberghe, 2006b). Indeed, Jakobs and van der Ploeg (2006) present some evidence that there is a correlation between PISA outcomes in science (where Belgium has a relatively low average score) and drop-out rates.

10. The free access to tertiary education is extended to nationals from other EU countries, which may contribute to explaining the relatively high share of foreigners enrolled in Belgian tertiary education institutions.[13] Most of these are enrolled in the French-speaking universities, also indicating a language choice.[14] In addition to the resource allocation problems, this creates a fiscal issue as foreign students neither contribute directly to the cost of provision through cost-recovery tuition fees nor indirectly through future increases in tax revenues.[15] To reduce the problem of Belgian students being crowded out by foreign students, the French community has introduced a regulation system for selected (particularly for veterinary) studies, which restricts the number of foreign students to 30%. Another solution to the fiscal issue would be to introduce cost-recovery tuition fees combined with the introduction of education vouchers or study grants for Belgian students (Gérard, 2006).[16] Additional advantages of such a system would be the introduction of a price signal on which universities can compete and of incentives for students to minimise study time.

11. Financial aid to students is mostly based on indirect measures. There is no system of student loans and *direct* support is only given in the form of means-tested grants to students from low-income families – a system that is relatively limited in scope.[17] *Indirect* student support is given in the forms of child benefits (granted to about 90 per cent of families) and tax credits to students' parents for each child in tertiary education – a method that is relatively rare in other countries (Vossensteyn, 1999). The federal

13. The highest number of foreigners is enrolled in the French community. The number approaches 10 per cent when including non-Belgians and members of the Flemish community attending university in Brussels (Vandenberghe, 2006b).

14. Only a limited number of tertiary education courses are offered in English. More than a quarter of all foreign students are from France and about half of all foreign students come from other EU countries (OECD, 2006).

15. This problem tends to be concentrated at short and medium tertiary programmes as tuition fees for Advanced Master Studies programmes are generally considerably higher.

16. In this context, it should be noted that EU member states are obliged to charge the same tuition fees for all citizens of the EU, but may have a higher tuition fee for non-EU citizens. This differs from the practise in the United States, where tuition fees for resident students are considerably lower than for out-of-state students (Gérard, 2006)

17. For example in Flanders, students from low-income families that qualify for the full student grant and are campus residents are entitled to € 3069 per year. For qualifying students staying with the family the annual grant is € 1 842.

government is financing this support, amounting to an estimated cost of some € 700 million, according to calculations by the OECD Secretariat.[18] Moreover, unlike a number of other European countries (such as Denmark, Germany, the Netherlands and Sweden) there is no strong link between the (indirect) financial support to the student and his/her academic progress, thus providing for few incentives to minimise study time. Moreover, because financial aid is provided to the family, many students continue to live in their parental home and choose tertiary educational institutions that are within commuting distance.

12. The development of direct student aid would help to stimulate competition among tertiary education institutions, as such a measure would allow students to move to the institutions that offer the best programmes (Jacobs and van der Ploeg, 2006). Empirical research suggests that students tend to study in institutions that are close to their parents' home, implying that travel and accommodation costs have a strong impact on the choice of institutions (Kelchermans and Verboven, 2006). This is likely to lower competition between universities. Enhancing competition among tertiary education institutions would require that students can access information about the quality of education and future labour market prospects. Flanders has started to release information about each university (including information about student-to-staff ratios, ICT and laboratory use, research achievements, peer and students reviews), while similar information in Wallonia tends to be confidential. Obviously, the provision of such information is a minimum requirement for students to make informed choices. Moreover, tertiary education is an investment in human capital and in order to evaluate and compare rates of returns of such investment across studies and universities, students should also be provided with career counselling regarding future labour market prospects.

Rates of return to investment in tertiary education are low

13. The rates of return on human capital investments can be calculated from the perspective of the individual undertaking the education, capturing how much higher expected future earnings are relative to the private costs of education (the so-called private rate of return); or from the perspective of the provider of education, capturing whether higher future tax revenues are larger than the cost of provision (fiscal rate of return). (For a detailed discussion of various rates of return on human capital investment, see De La Fuente and Jimeno, 2005). The private rate of return takes into account foregone earnings during the studies, private costs of education, expected higher future incomes, unemployment risks, retirement patterns and other relevant variables. Differences between calculated rates of returns reflect a host of factors (including relative skill premia in the labour market, marginal tax rates, and wage bargaining systems) that are all beyond the influence of the tertiary education system. Nevertheless, such earning differentials provide strong economic incentives for individuals to enter further education (OECD, 2005b).

14. Comparing rates of return over time is a hazardous undertaking as changes in methodology and data sources can have impacts on results that overshadow underlying developments. Nonetheless, there are some indications that private rates of return to tertiary education have declined over the past decade. Nonneman and Cortens (1997) present estimated private rates of return from the early 1990s that are some 20% higher than those from early 2000s presented in Table 2. Furthermore, the private rates of return in Belgium are presently among the lowest in the Europe.[19]

18. The estimates are based on the assumption that the 303 427 students come from 202 285 households (assuming that half of the tertiary students have a sibling also in tertiary education). For each of these households the average value of the associated tax credit is € 988 per year and they will receive an average child allowance of €2 437 per year.

19. The estimates presented in Table 2 are best interpreted as the rate of return of an additional year of education. Similar estimates but for whole tertiary education cycle (Blöndal *et al*, 2002) tend to confirm the presented ranking, although some point estimates vary considerable between the two studies. However, the Blöndal *et al.* (2002) study does not include Belgium.

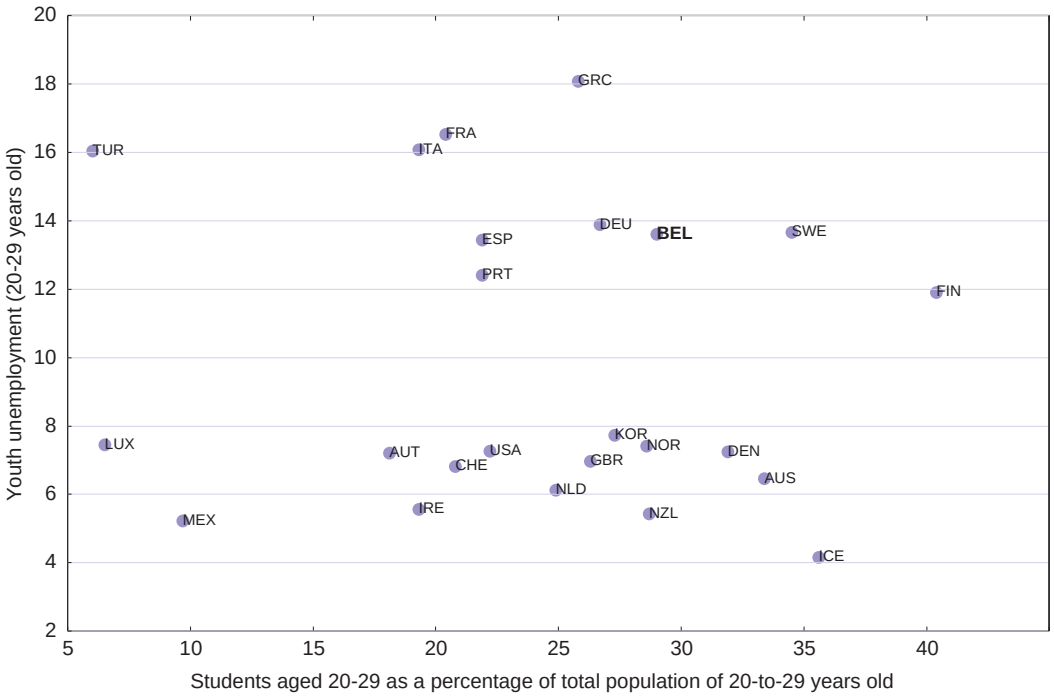
Table 2. Net internal private rates of return to tertiary education
In per cent

	Raw returns (*i.e.* no government transfers)	+ Educational subsidies	+ Taxes	+ Housing and unemployment benefits
Austria	6.22	10.35	8.96	**8.52**
Belgium	**7.20**	**9.91**	**9.88**	**7.47**
Denmark	5.08	7.87	9.16	**7.99**
Finland	9.19	13.31	12.15	**9.98**
France	7.25	11.00	10.59	**8.63**
Germany	8.32	11.32	9.97	**9.13**
Greece	8.28	11.16	10.22	**9.18**
Ireland	10.98	15.82	12.40	**11.03**
Italy	7.31	10.46	10.08	**8.44**
Netherlands	6.11	8.73	7.98	**6.95**
Portugal	6.87	11.44	10.82	**10.30**
Spain	8.91	12.24	11.59	**7.50**
Sweden	3.21	6.48	7.18	**4.28**
United Kingdom	9.94	13.07	13.16	**12.25**
Avg. EU14	7.56	11.05	10.43	**8.78**

Source: De La Fuente, A. and J. F. Jimeno (2005)

15. Decomposing the private rates of return into their various components helps to understand the relatively low results for Belgium. Return in terms of the expected increase in future income stream (net of foregone earnings) is slightly below the EU-14 average. This reflects the compressed wage distribution, both between different education levels and across tertiary degrees. The relatively low private returns also reflect the fact that the value of educational subsidies is lower than in other countries. Interestingly, the tax system has little effect on Belgian private rates of return, unlike the lowering seen in most other countries, presumably reflecting the limited progression in the personal income tax system. Further adding the unemployment risk and housing subsidies leaves Belgian private rates of return notably lower than the average in EU countries. The implication is that the economic incentives for undertaking tertiary education in Belgium are relatively low. Instead, the high enrolment rate in tertiary education may be related to an attempt to avoid unemployment (see also Chapter 3) (Figure 4).

Figure 4. Youth unemployment and enrolment in tertiary education



Source: OECD, Education at a glance, 2005, Labour Force Statistics.

16. The incentives for the governments to provide tertiary education are relatively high, as shown by the large fiscal rate of return. The additional tax revenues resulting from raising educational attainment exceed the cost of provision (Table 3). This results from the high average rates of personal income taxes and social security contributions and the low cost of provision, both in terms of direct spending on tertiary education and spending on income support for students – an area where Belgium spends relatively little, although this does not include indirect student support through tax reduction and child benefits to the parents.

Table 3. Fiscal rates of return to investment in tertiary education
In per cent

	+Personal taxes	+Consumption taxes	+Employer social security contributions
Austria	0.68	1.17	**2.11**
Belgium	3.03	3.15	**3.91**
Denmark	0.82	1.19	**1.18**
Finland	3.77	4.10	**4.92**
France	1.52	2.11	**3.66**
Germany	3.97	4.13	**4.70**
Greece	1.79	2.54	**3.70**
Ireland	5.34	5.67	**6.17**
Italy	1.81	2.21	**3.39**
Netherlands	2.25	2.52	**2.82**
Portugal	0.09	1.18	**2.42**
Spain	2.98	3.37	**4.74**
Sweden	–1.42	–1.25	**–0.52**
United Kingdom	3.19	3.80	**4.53**
Avg. EU14	2.35	2.74	**3.58**

Source: De la Fuente and Jimeno (2005).

17. The rates of return to tertiary education vary across study fields. In general, graduates in humanities (such as in politics, social science, psychology, history and philosophy) are encountering above-average unemployment problems (EIU, 2005). In Flanders, the average unemployment rate among recent graduates was about 11.6% in 2004, but there was considerable variation across fields of study (Ministry of Education and Training – Flemish Community, 2006).[20] The high enrolment in study fields with limited employment prospects can probably be explained by the high level of youth unemployment, which induces young people to seek graduate diplomas in order to signal ability. The latter has also been important for young workers to benefit from the general shift in labour demand towards more highly qualified workers (Box 2).

Box 2 The relative shift in labour demand

Along with the increase in number of graduates there has been a shift in labour demand towards higher qualified workers. Since the end of the 1990s, there has been a decline in the share of lower qualified workers (defined as having at most lower secondary education) of about 6¼ percentage points. By contrast, the share of workers with short and long tertiary education has increased by about 4 percentage points. The largest increases in the share of workers with tertiary education have been seen in the sectors of public administration and private services, particularly the business services sector. This shift in labour demand has been met by an increase in the share of young people with a graduate education. Contrary to other countries, few adults have entered tertiary education. The lack of adult students is likely to reflect a lack of both flexible educational options (such as distance learning and e–learning) and financial incentives (an absence of financial aid and high tax on continued work on older workers).

20. The unemployment rate about graduates with degree in visual and audio-visual arts is 37%, in architecture 22%, in music and dramatic art 22%, in political and social sciences 20%, in history 23%, in archaeology and art sciences 26%, and in philosophy and moral sciences 26% (Ministry of Education and Training, 2006).

Economic incentives

18. A range of economic instruments can improve the efficiency of tertiary education. Among them, charging tuition fees is an instrument that might come with two main benefits: *first*, it provides additional funding to tertiary institutions and encourages them to compete for students; *second*, it encourages graduate students to internalise the social costs of education, select fields of study with high rates of return and minimise the length of studies and associated costs. See Box 3 for a more detailed discussion of the benefits of tuition fees. Empirical research indicates that the introduction of uniform cost-based tuition fees achieve most of the above welfare gains, *i.e*. such tuition fees will have little overall effect on the demand for higher education (Kelchtermans and Verboven, 2006). However, the compressed wage structure is preventing the labour markets from sending clearer signals about the relative demand for skills. Thus, in areas where the private rate of return is particularly high, there is a case for having higher tuition fees without risking large relative shifts in the demand for education. Other economic instruments than tuition fees can be used to introduce competition between institutions. For example, the current education subsidies to the tertiary education institutions can be used to create individual (preferably nominal study time limited) education vouchers that students can use to purchase education services from accredited domestic and foreign institutions.[21]

Box 3 The benefits of tuition fees

The introduction of (partial) cost-recovery tuition fees has a number of effects that may benefit the tertiary education system:

- The budgetary constraints on the governments are likely to remain in place over the foreseeable future, making governments unwilling or unable to provide sufficient funds to maintain the appropriate quality and quantity of tertiary education. Fees levied on the direct beneficiaries of education will provide tertiary education institutions with an independent revenue source.
- Tuition fees will increase the responsiveness of tertiary education institutions to the needs and demands of students, which make such fees an important driver for continued improvements of efficiency and quality, including that of the teaching staff.
- Fees give incentives for students to both entering studies that match their capabilities and to reducing their average duration of studies – both factors releasing resources for the provision of tertiary education. The design of such fees can include negative fees. For example, the Dutch "achievement-related grant" is initially provided as a loan, but is converted into a grant if the student graduates within 6 years in a study programme with a planned four year horizon (Vossensteyn, 1999).
- Fees are a dynamic progressive fiscal instrument as graduates tend to come from high income families and that they will earn higher than average incomes. Naturally, equity goals can be pursued through a progressive income tax system, but imposing fees on those that have benefited directly provides for better targeting.
- Cost-recovery tuition fees prevent the cross-subsidisation of foreign students (Vandenberghe and Debande, 2006).
- Fees are unlikely to lead to a substantial reduction in incentives to study as emperical evaluations indicate that the introduction of a cumulative € 20 000 tuition fees will at most reduce private rates of return on tertiary education by a maximum ¾ percentage point (Vandenberghe and Debande, 2006).
- International evidence suggest that when fees are combined with measures to secure accessibility (student loans, means tested grants, etc) there are no significant adverse effects on participation and have in some cases reduced social bias (OECD, 2004).

21. Such a strengthening of the demand side is likely to induce a supply response, which may entail changes in the organisation of the provision of tertiary education.

19. Tuition fees, however, cannot be a stand-alone instrument. If students are faced with a liquidity constraint due to a lack of income or capital market failure, such fees are inefficient and inequitable as high ability/low income students are deterred from entering tertiary education (generating an efficiency as well as a social loss). Problems of lack of income or capital market failure can be addressed through student aid in the form of either grants or loans.

20. General grants tend to be regressive as the lifetime incomes of graduates are higher than those of the average taxpayer. Moreover, means-tested grants that are based on the income of students tend to become universal as students usually have relatively little labour income. On the other hand, means-tested grants that are based on the parental income do not directly address the problem of capital market failures. The latter can be addressed through (subsidised) student public loans. Moreover, if repayments are made contingent on future income, then efficiency will be enhanced (as neither students nor lender are deterred by excessive risks) and equity concerns are addressed (as repayments are tailored to *ex post* ability to pay).[22,23] Such income contingent student loans should, nevertheless, probably be combined with targeted grants (scholarships) to students from low-income households to alleviate asymmetric information problems.

21. Designing optimal income-contingent student loans can be difficult. They carry an associated risk premium insofar as higher graduate incomes fail to materialise, which in the Belgium case has been estimated to be around 13% for tertiary education (Vandenberghe and Debande, 2004). This risk can either be shifted to the taxpayers or pooled in a scheme. The choice between the two solutions is a balancing of the fiscal costs and the implicit rise in public debt against the increasing cost of pooling if there is a high risk of adverse selection (as potential high earners opt out). The latter can partly be addressed by pooling students according to their risk profiles. An alternative solution, although probably difficult to implement, is to make participation mandatory (Vandenberghe and Debande, 2006). An additional concern is that such loans may deter labour market participation as they may raise marginal effective tax rates (METRs) during the repayment period. This is a particularly important consideration given the low private rates of return on tertiary education in Belgium, suggesting that the subsidy element should be relatively important.[24]

22. Tuition fees should not be the only entry regulating mechanism in tertiary education. Screening tests are important to align the ability of students with the requirements of their chosen studies and thus enhance the efficiency of the tertiary education system. This is a particular issue in Belgium where there are no regional or national exit tests at the upper secondary level, and thus there is no mechanism for ensuring homogenous standards across students. As an implication, students may not even have a realistic assessment of their own abilities and better directing of students through more extensive counselling could be helpful. The current system has an ability test in the form of the first-year exams, but with more than half of the students failing the tests, this type of screening is very costly. Two types of ability screening can be identified within the OECD countries. In countries with nation-wide exams (and external examiners) at the upper-secondary level, the grades obtained are often used as an access criteria for tertiary education. In other countries, systems of entry exams can be found, either at the general level or in selected institutions.

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22. The arguments in favour of deferred payments include the notion of unequally distributed liquidity constraints, the time lag between the investment decisions and the materialisation of the actual benefits, and the information problem concerning the student's future income. The latter means that deferred payments could become an income-contingent scheme, thereby aligning tuition fees with the student's ability to pay (Vandenberghe and Debande, 2006).

23. Jacobs and van der Ploeg (2006) provide some empirical support for the proposition that if students borrow more and pay more for their studies, then the overall educational performance improves.

24. An additional concern is that it can be difficult to secure a sufficiently high income after graduation (job search, seniority based wages, etc.) so loans should probably have relatively long time horizons.

At times, though, such entry exams tend to have a risk of social bias as higher income families are better placed to economically support applicants through the often extended periods of entry exam preparation.

Conclusion

23. Despite recent changes, tertiary education institutions still have incentives to accept as many first-year students as possible. At the same time students are faced with few incentives to match their capabilities and studies. The introduction of economic instruments can ensure that the supply of tertiary education reflects demands for quantity and quality and that students adjust their demand to reflect their capabilities and have incentives to minimise study time. Detailed recommendations to reorient tertiary education can be found in Box 4.

Box 4. Recommendations for improving incentives in tertiary education

- Introduce tuition fees that are high enough (*i.e.* to partial cost-recovery levels) to become an important source of financing for tertiary education institutions. Such fees give the institutions incentives to supply adequate quantities and qualities of studies in response to demand for tertiary education. At the same time, the fees provide students with incentives to match their capabilities with their choice of study.

- Higher tuition fees, however, cannot be a stand-alone measure. Accessibility should be secured through the introduction of income-contingent student loans. Given the low private rates of return, the design of such loans could include a subsidy element, either through a below-market interest rate or as a premium for timely conclusion of studies. In addition, social bias concerns could be addressed through the introduction of targeted grants (scholarships) to students from low-income households.

- The introduction of a screening system would contribute to matching students' capabilities with the demands for tertiary education and thus lower the current high failure rate among first-year students as well as the high number of changes of study fields. Such a system can also function as a feedback mechanism for secondary education. Another helpful measure to direct students would be to expand recent measures to disseminate relevant information concerning the quality of education and which should be combined with more extensive career counselling regarding future labour market prospects.

- An important aspect of tuition fees is that they stimulate competition between tertiary education institutions for attracting students. However, to alleviate information asymmetries and allow students to make informed choices, all institutions should be obliged to publish relevant information concerning the provided quality of education and future labour market prospects.

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